

# Work Order ID 72763

Friday, August 12, 2011 1:17:08 PM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 8/12/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/24/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 8/08/12 Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DOCUMENT CONTROL

DC

0.00

Document Control

Memo

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00



Skidtubes

0.00

Skidtubes

Memo

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI004

AR Aluminum Rod Batch: M112860

4- grind fwd cap weld on top surface only M112860

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7-Clamp DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8-Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9-Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP/MO 11-9-14

11/09/15

BE 11/09/15

BE 11/09/15

DR 11/09/16

**Dart Aerospace Ltd**

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

114



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 u109116

116



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 u109116

120



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

TW

11-09-19

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Date:

SPC (Y/N):

Date:

Run Start

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Work Center IDOperation  
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Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

150

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 &amp; QSI 015.

A/R: Sikaflex-291 11-03-13

Sikaflex expire date: 12/04/05

Start: Time: 3:15

Finish: 8:00 Time: 8:15

(Adhere for 12 hours)

11-09-20

DL  
11/09/20

**Dart Aerospace Ltd**

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Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00



11-9-22

170



Skid tubes

Skid tubes

Skid tubes

Memo

0.00

0.00

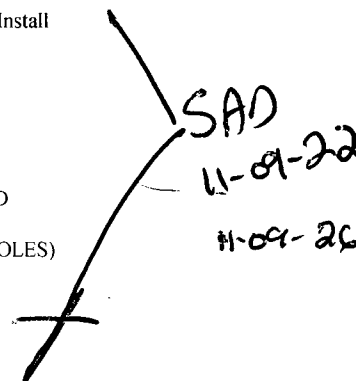
1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE  
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)  
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding



**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00



11-9-27



QC

Memo

0.00

Quality Control

190

Skidtubes

0.00



Skidtubes

Memo

0.00

1-Insert D2649 &amp; D3275-I crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R ☐ Aluminum Rod ☒ 117884

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

11-09-27  
11-09-27  
11-9-27

**Dart Aerospace Ltd**

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Cust Item ID:

Required Date: 8/24/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S. M. 11/10/04

Pto →

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

S. M. 11/10/04

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

N. M. 11/10/04

Dart Aerospace Ltd

W/O: 72763		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D26-642-541 PAR #: NA Fault Category: Landing Gear Skid tube NCR: Yes No DQA:   Date: 11.10.14  
 Resolution: Re work Disposition: Re work QA: N/C Closed:   Date: 11/10/14

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/09/28	190	Found at inspection that the SADDLES do not align correctly. Cannot get the Bush in the one SADDLE. The 18th hole in the Aft is out of alignment.	GP 11.09.28 PS1642	→ Drill out + remove D2645. 18th hole from Aft (last two SADDLE hole) → re welded as per as 7004 D2645 B 73857 A/R 11/10/14	GP 11-10-3 BE 11/10/14	S 11/10/14	GP 11.09.28 PS1642	S 11/09/28
		R.C. Pulver when weldin' Procs	GP 11.09.28	→ Grind out welds flush + Re counter Bore as per Dwg + Deburr	GP 11-10-3	S 11/10/14	GP 11.09.28	S 11/09/28

NOTE: Date & initial all entries

# Work Order ID 72763

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Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

1:00  
320  
1:30

0.00

11/10/04

240

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

0.00

1 BL 11-10-01

250

HandFinishing

0.00



HandFinish

Hand Finishing

Memo

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

A/R□□A□LPS-3□ 11/5/06

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R□□Sikaflex-291 □ 11/8/03 □□

Sikaflex expire date: 12.5.

1 BL 11-10-05

Dart Aerospace Ltd

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Nut Plate &amp; Inserts

270

HAND FINISHING RESOURCE #1

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads &amp; gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☐ 118393 ☐Sikaflex expire date: ☐ 12-5

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: N/A

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☐ 118893 ☐Sikaflex expire date: ☐ 12-5

PROC 4 ON M.114596.

1 BL 11-10-5.

Dart Aerospace Ltd

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280

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S-160605

②

290

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

P0074433

C-11/12/6 C

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/10/11 JF  
MF 11-10-09

**Dart Aerospace Ltd**

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# Picklist Print

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Work Order ID: 72763

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B: 05.09.23 Revised per D206-642 Rev. J[KJ]/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC  
 IPP Rev:F 08-06-02 add comment DD verified by:EC  
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190		Manufactured	No			110	Each	88.4000	1	1			



Extrusion Round 3" 206

Location

Loc Qty

Loc Code

HALL

88.4

59874

29.4

69622

59

D3285-1

Manufactured

No

110

Each

99.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG002

99

52511

52

52647

47

D3282-041

Manufactured

No

150

Each

2.0000

1

1



Float Web (206L/407)

Location

Loc Qty

Loc Code

LG

70050

2

69715

2

11-9-14

BE 11/09/15

DE 11/09/20

**Dart Aerospace Ltd**

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Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

130.0000

12

12



Cross Bolt Spacer



PR 11-09-27

Location

Loc Qty

Loc Code

LG	<u>373390</u>	118
	68224	2
	71355	2
	72704	114
LG001		12
	65317	1
	68507	11

12

D3275-1

Manufactured No

190

Each

364.0000

12

12



Crossbolt Spacer



PR 11-09-27

Location

Loc Qty

Loc Code

LG		161
	<u>72123</u>	161
LG002		203
	66930	106
	68946	72
	70688	25

12

CR3212-4-03

Purchased No

250

Each

1,174.000

2

2



Cherry Rivet



PR 11-10-5

Location

Loc Qty

Loc Code

FP-B		2
	110139	2
ST311		1172
	114859	1172

2

Friday, August 12, 2011 1:17:13 PM

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Page 2

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, August 12, 2011 1:17:13 PM

Work Order ID: 72763

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

D3415-041 Manufactured No

250

Each

56.0000

1

1



Nut Plate



BR 11-10-5.

Location

Loc Qty

Loc Code

ST053

56

33842

12

67605 ✓

44

CCR264SS3-3 Purchased No

250

Each

471.0000

2

2



Cherry Rivet



BR 11-10-5.

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

469

117086

43

117849 ✓

426

ALS4-1032-130 Purchased No

250

Each

2,276.000

78

78



Insert



BR 11-10-5.

Location

Loc Qty

Loc Code

ST281

378

117331

8

118386

370

ST282

1898

117717 ✓

54

118237

1588

118312

256

ALS4-1032-130.

78.

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 4

Friday, August 12, 2011 1:17:14 PM

Work Order ID: 72763

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011



Required Date: 8/24/2011

Start Qty: 1.00



Required Qty: 1.00

D3536-15	Manufactured	No	270	Each	16.0000	1	1	
								BR 11-10-5.
Gasket								



Location	Loc Qty	Loc Code
FP011	16	
66559	3	
71586 ✓	13	

D3536-23	Manufactured	No	270	Each	25.0000	1	1	
								BR 11-10-5.
Gasket								

Location	Loc Qty	Loc Code
FP011	25	
43406	1	
69902	12	
71579 ✓	12	

D3536-35	Manufactured	No	270	Each	21.0000	1	1	
								BR 11-10-5.
Gasket								

Location	Loc Qty	Loc Code
FP012 73313	21	
69755	7	
71587	14	

D3536-39	Manufactured	No	270	Each	27.0000	1	1	
								BR 11-10-5.
Gasket								

Location	Loc Qty	Loc Code
FP015	27	
66241	1	
69760 ✓	26	

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, August 12, 2011 1:17:14 PM

Work Order ID: 72763

Parent Item: D206-642-541


Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011


Start Qty: 1.00

Required Qty: 1.00

D3535-15      Manufactured      No      270      Each      15.0000      1      1  
  
Wearshoe


Location	Loc Qty	Loc Code
FP018 73006	15	
68358	1	
69931	14	

BR 11-10-5

D3535-35      Manufactured      No      270      Each      22.0000      1      1  
  
Wearshoe


Location	Loc Qty	Loc Code
FP018 73311	14	
65926	1	
67598	1	
70815	12	
ST	8	
69756	8	

BR 11-10-5

D3535-39      Manufactured      No      270      Each      13.0000      1      1  
  
Wearshoe

Location	Loc Qty	Loc Code
FP018 72154	13	
69759	13	

BR 11-10-5

D3535-23      Manufactured      No      270      Each      25.0000      1      1  
  
Wearshoe

Location	Loc Qty	Loc Code
FP021	25	
68342	2	
70818	11	
7158	12	

BR 11-10-5

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, August 12, 2011 1:17:14 PM

Page 6

Work Order ID: 72763

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-3 Manufactured No

270

Each

23.0000

1

1



Wearpad



BL 11-10-5.

Location

Loc Qty

Loc Code

FP

17

70481 ✓

17

FP017

6

35697

1

72686

5

D3537-1 Manufactured No

270

Each

27.0000

9

9



Wearpad



BL 11-10-5.

Location

Loc Qty

Loc Code

FP

20

71574

20

FP017

7

69817

5

70686

2

AN960C10L NAS1149C0332 / Purchased No

270

Each

0.0000

80

80



washer

118354



80. BL 11-10-5.

AN960C416 NAS1149C0463 / Purchased No

270

Each

0.0000

1

1



washer

117735



1 - BL 11-10-5.

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, August 12, 2011 1:17:14 PM

Page 7

Work Order ID: 72763

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270 Each

1,412.000 2 2



Phenolic Washer



BR 11-10-5.

Location

Loc Qty

Loc Code

ST074

1410

64177

414

66821 ✓

496

72229

500

ST077

2

52505

2

AN3C4A

Purchased No

270 Each

1,361.000 80 80



BOLT



BR 11-10-5.

Location

Loc Qty

Loc Code

ST350

1361

117313

2

117688

36

117795

1

117872

22

118012

260

118112

40

118451 ✓

1000

AN4C5A

Purchased No

270 Each

493.0000 1 1



BOLT



BR 11-10-5.

Location

Loc Qty

Loc Code

FP-B

103

112243 ✓

103

ST345

390

112243

390

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, August 12, 2011 1:17:14 PM

Page 8

Work Order ID: 72763

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 8/12/2011

Required Date: 8/24/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270

Each

101.0000

1

1



Aft Cap



BR 11-10-5.

Location

Loc Qty

Loc Code

FP004

54

68280

54

FP006

5

62678

5

FP-4

38

70945

1

71070 ✓

37

fp5

4

71038

4

D3413-1

Manufactured No

270

Each

28.0000

1

1



Ring



BR 11-10-5.

Location

Loc Qty

Loc Code

ST420

27

66387

1

70773

25

71041

1

ST473

1

66945

1

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Page 8

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN <b>CP</b>	DRAWN BY <b>PH</b>	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
CHECKED <b>[Signature]</b>	APPROVED <b>[Signature]</b>	DRAWING NO. <b>D3274</b>	REV. D SHEET 1 OF 4
DATE <b>06.12.19</b>		TITLE <b>SKIDTUBE ASSEMBLY</b> SCALE NTS	
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

**RELEASED**  
**07.02.12**  
**DEO ATTACHED**

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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. **72763**  
**111-8512**

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

**GENERAL NOTES:**

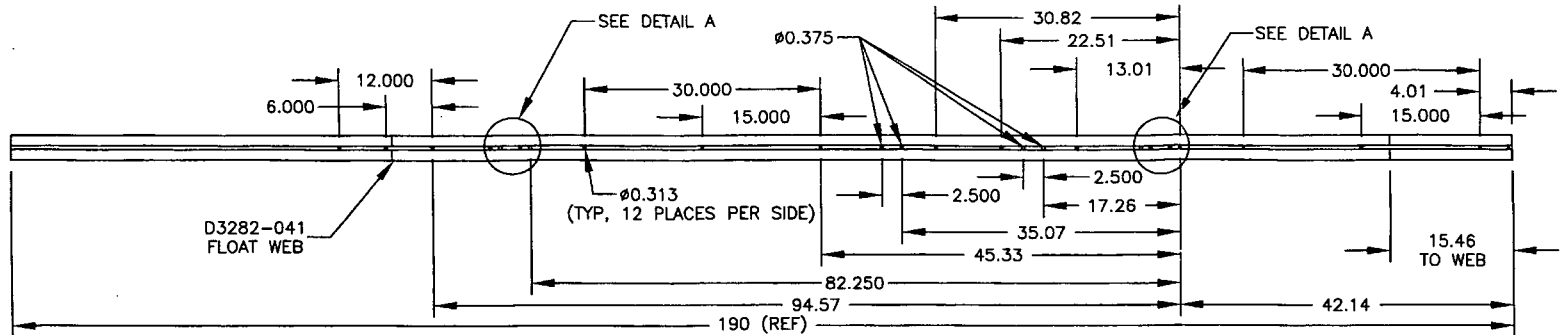
1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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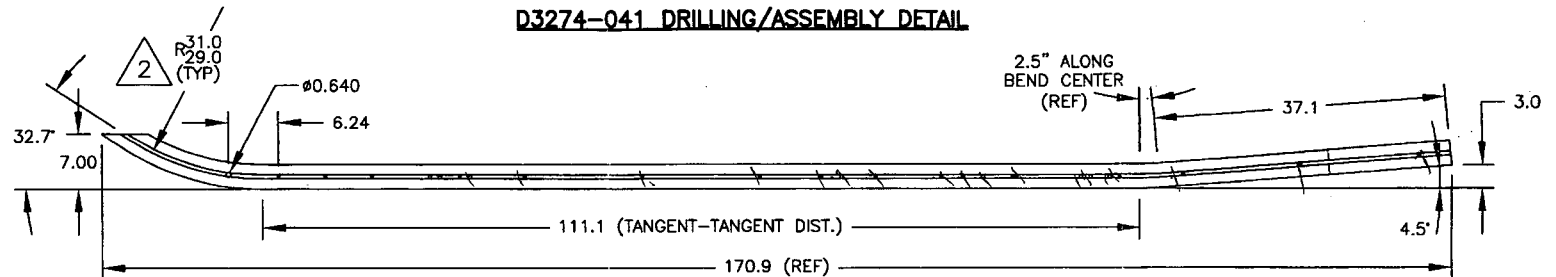
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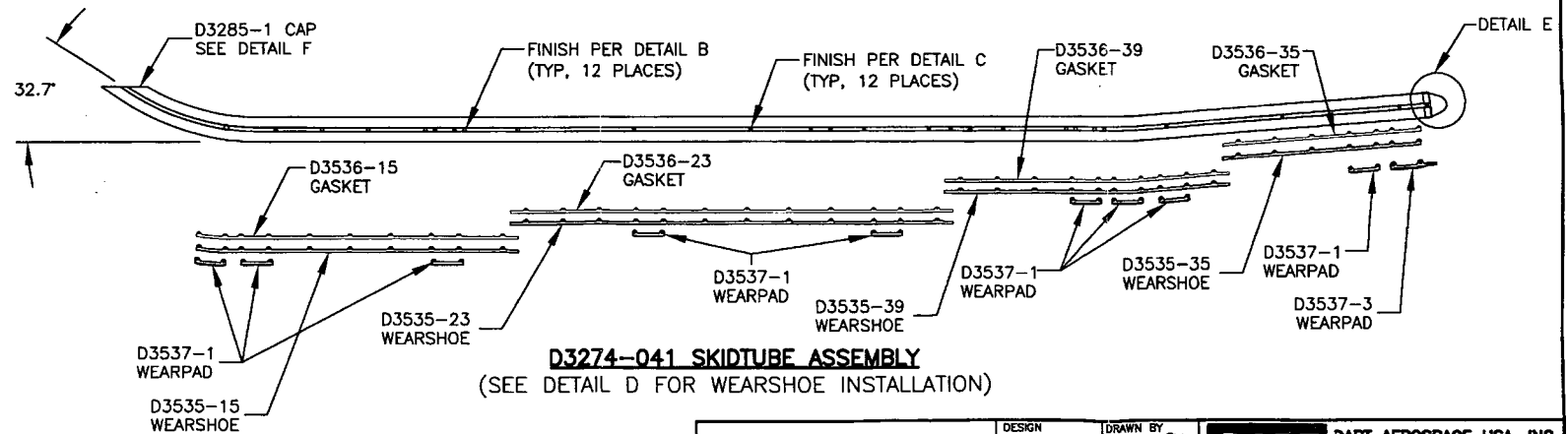
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**D3274-041 DRILLING/ASSEMBLY DETAIL**



**D3274-041 BEND/DRILLING DETAIL**



**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

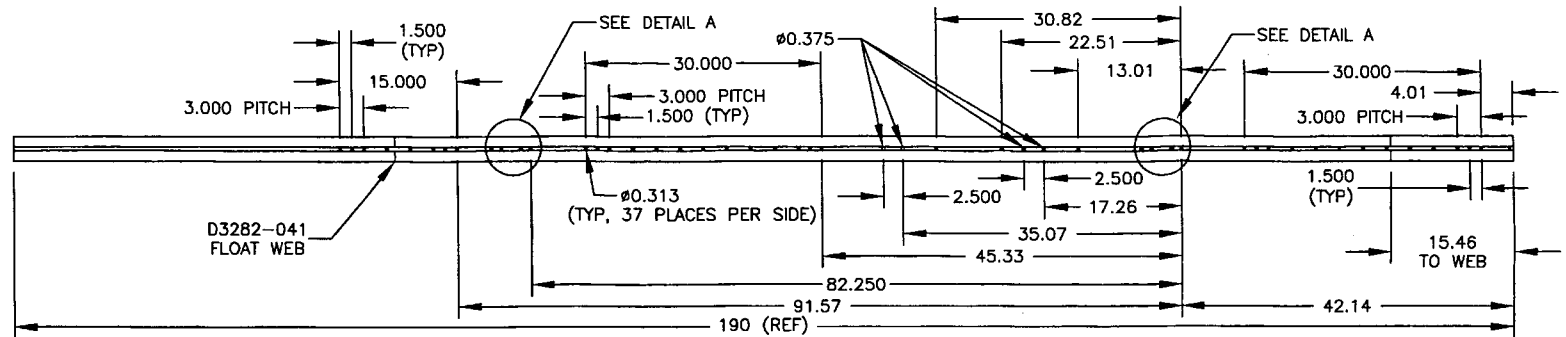
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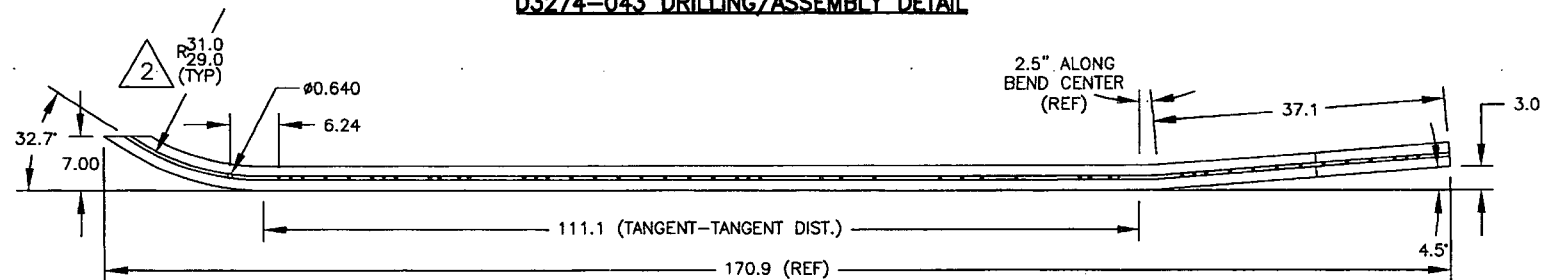
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CHECKED	DATE	CP	PH	DRAWING NO.	REV. D
	06.12.19			D3274	SHEET 2 OF 4
TITLE				SCALE	
SKIDTUBE ASSEMBLY				1:15	

72763

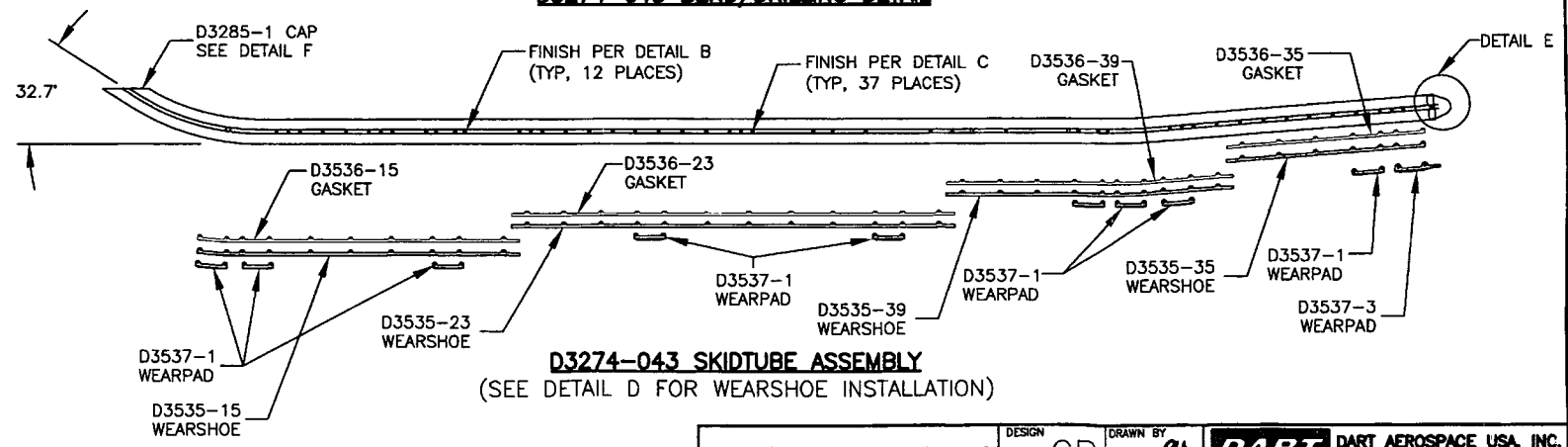
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



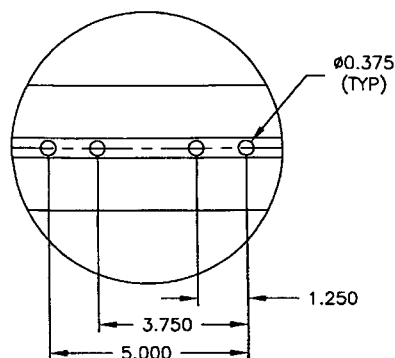
D3274-043 SKIDTUBE ASSEMBLY  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

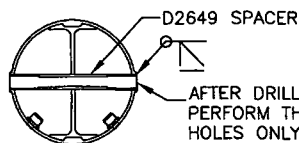
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CHECKED	DATE	CP	PH	DRAWING NO.	REV. D
#	06.12.19	#	#	D3274	SHEET 3 OF 4
TITLE				SCALE	
SKIDTUBE ASSEMBLY				1:15	

# **DETAIL A: DRILL DETAIL**

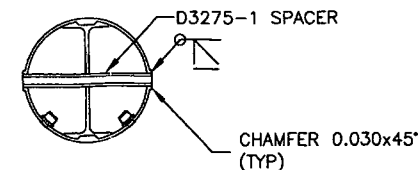


# **DETAIL B** FOR 0.375 HOLES ONLY

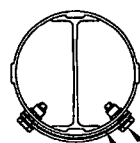


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR 0.375  
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE TO 0.313x0.75 DEEP

# **DETAIL C** FOR 0.313 HOLES ONLY



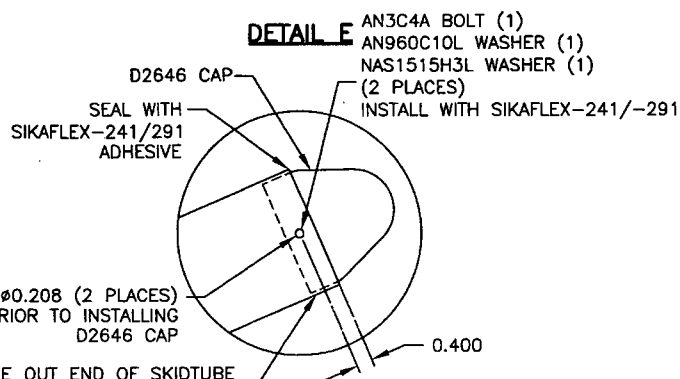
# **DETAIL D**



- ALS7-1032-130 INSERT (1)  
AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

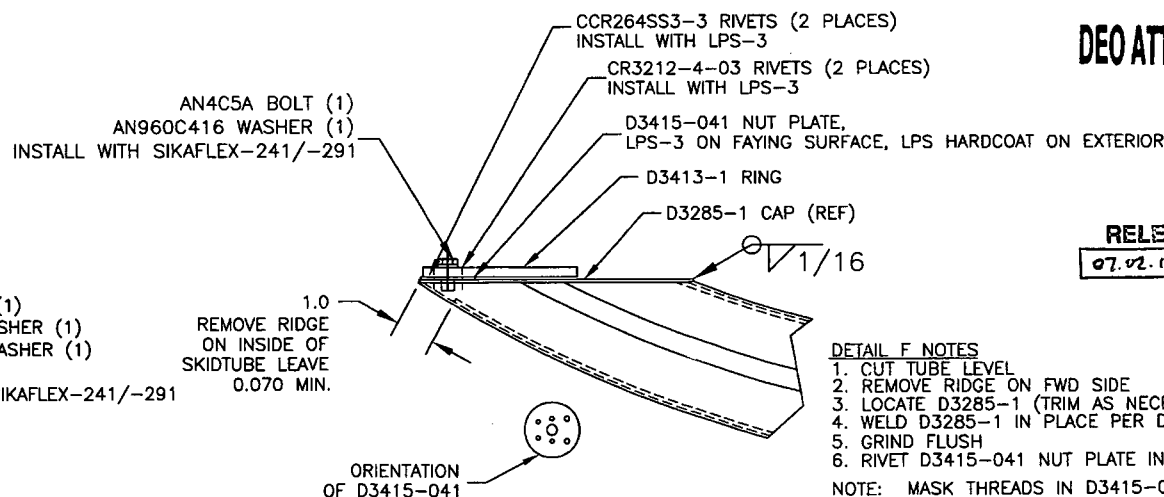
# **DETAIL E**



0.208 (2 PLACES)  
DRILL PRIOR TO INSTALLING  
D2646 CAP

BORE OUT END OF SKIDTUBE  
TO 0.75 DEPTH AND 0.070 WALL

# **DETAIL F: END FINISHING DETAIL**



# **DETAIL F NOTES**

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

**DEO ATTACHED**

**RELEASED**  
07.02.12

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DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, WA	REV. D
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 4 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:3



DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

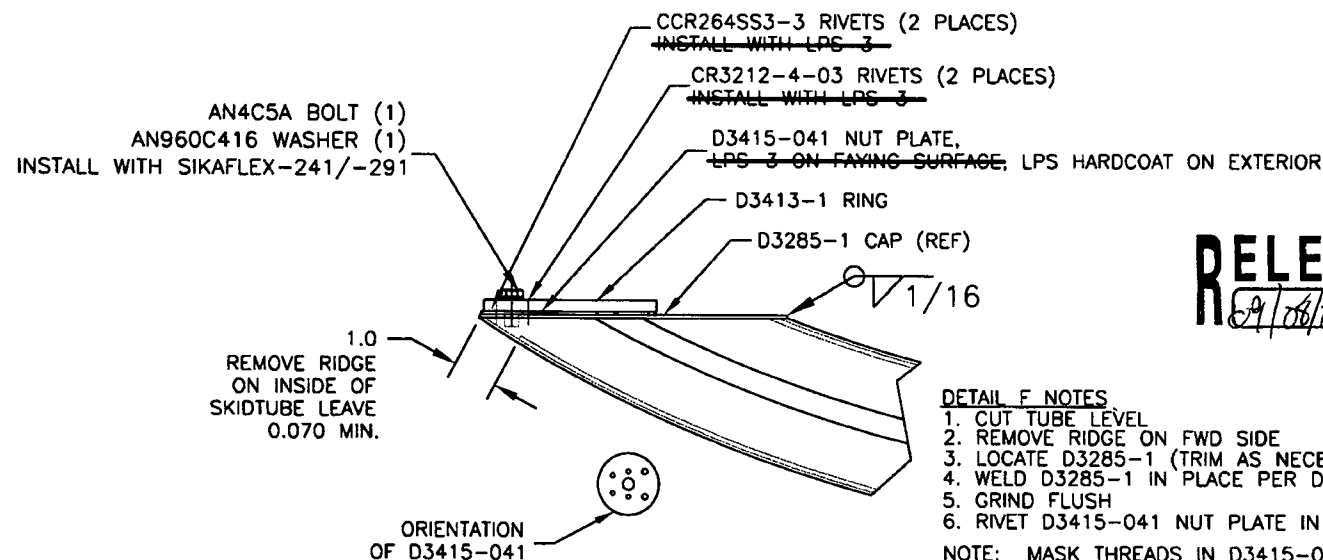
LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

72763

### DETAIL F: END FINISHING DETAIL



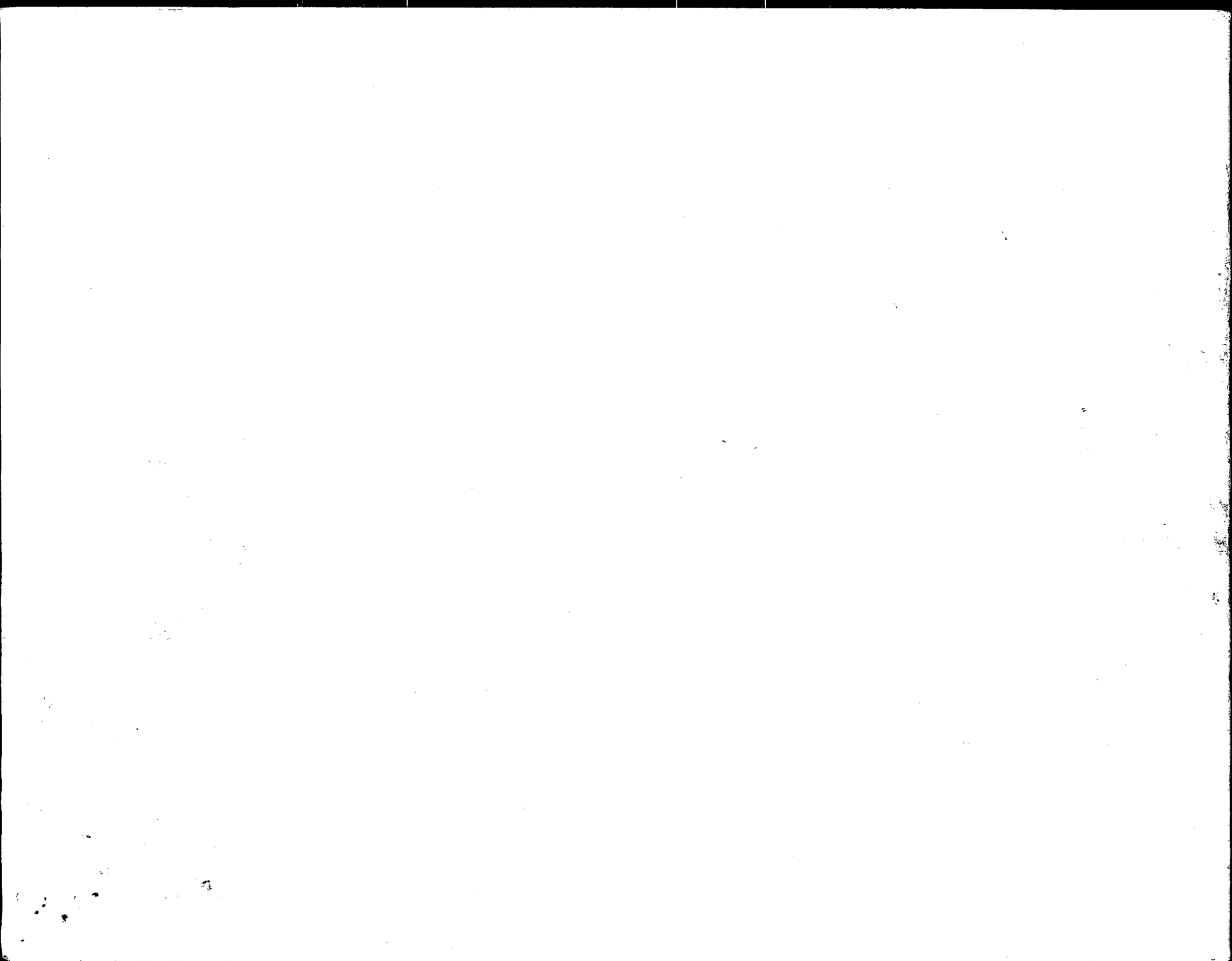
#### DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

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NO. 267

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Pat Ewers  
Job number: 73212  
Part number: A206-642-541  
Description: Skid tube  
Welding Process: Tig ☒ Mig ☒  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:  
Penetration:

pass ☒ fail ☐  
pass ☒ fail ☐

UNACCEPTABLE

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐

Qualifier David Aival Date of Test Coupon 11.09.26  
Welder Pat Ewers Date of Test Coupon 11.09.26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries